

Claims

1. A scrap tyre bead removal machine comprising a punch or press mechanism for punching out beads from a scrap tyre.
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2. A scrap tyre bead removal machine as claimed in claim 1 wherein the punch or press mechanism is adapted to simultaneously punch out the beads on opposing sides of the tyre.
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3. A scrap tyre bead removal machine as claimed in claim 1 or claim 2 wherein the punch or press mechanism includes a hydraulic actuator.
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4. A scrap tyre bead removal machine as claimed in claim 3 wherein one or more punch members are carried on the hydraulic actuator.
- 20 5. A scrap tyre bead removal machine as claimed in claim 4 wherein the punch member is annular and has an inner diameter that is larger than an outer diameter of the beads.
- 25 6. A scrap tyre bead removal machine as claimed in claim 4 or claim 5 wherein the punch member co-operates with one or more cutting members to remove the beads.
- 30 7. A scrap tyre bead removal machine as claimed in claim 6 wherein the punch member and the or each cutting member are located on opposing sides of a tyre debeading position.

8. A scrap tyre bead removal machine as claimed in claim 6 or claim 7 wherein the cutting member defines a ring that has an inner diameter that is larger than the outer diameter of the beading.

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9. A scrap tyre bead removal machine as claimed in claim 8 when dependant on claim 4, wherein the inner diameter of the cutting member is substantially the same as the outer diameter of the punch member.

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10. A scrap tyre bead removal machine as claimed in any of claims 6 to 9 wherein the or each cutting member has a serrated cutting edge.

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11. A scrap tyre bead removal machine as claimed in any of the preceding claims comprising a locating mechanism for locating the tyre in a pre-determined position prior to debeading.

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12. A scrap tyre bead removal machine as claimed claim 11 wherein the locating mechanism comprises one or more locating pieces adapted to engage with an inner periphery of the tyre, preferably wherein the locating pieces are tapered.

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13. A scrap tyre bead removal machine as claimed in any of the preceding claims comprising a conveyer mechanism for moving a tyre to a debeading position.

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14. A scrap tyre bead removal machine as claimed in claim 13 wherein the conveyer mechanism is an intermittent conveyer mechanism that is configured to move a tyre to a debeading position or platform, wait until the tyre is debeaded by the punch mechanism and

then move the debeaded tyre away from the debeading position or platform.

15. A scrap tyre bead removal machine as claimed in
5 claim 5 or claim 6 wherein the conveyer comprises a plurality of spaced apart movable engagement members, each provided for engaging with a tyre and moving it towards and/or away from the debeading position or platform.

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16. A control system for a scrap tyre debeading system as claimed in any of the preceding claims, the control system being configured to determine when a tyre is moved to a debeading position; cause a punch mechanism to punch 15 out the tyre beads, and move the debeaded tyre away from the debeading position.

17. A tyre bead that is removed from a tyre using a machine or system as defined in any of the preceding 20 claims.